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IMPLEMENTATION OF A PERSONNEL MANAGEMENT SYSTEM "BEAUFORT": SUCCESSES AND FAILURES AT A DUTCH HOSPITAL

EXECUTIVE SUMMARY

This case describes a project concerning the implementation of a personnel management system – Beaufort – in Medinet, one of the larger regional general hospitals in the Netherlands. The project plan included two sequential phases: firstly, the introduction of Beaufort to the central personnel and salary department (PSA) located in one building, and secondly, its introduction to the Human Resource (HR) managers distributed in remote clusters throughout the entire organization. The PSA department implemented Beaufort in accordance with the scheduled plan (phase1). However, phase 2 was complicated by several social and technical factors that led to negative users' attitudes, uncertainty, delays, and pessimism towards the implementation. Medinet approached a critical moment when a decision had to be taken as to what should next be done in order to keep the project running, and to get the decentralized users to more fully use Beaufort. Two and a half years after Beaufort was introduced, the management had to freeze the project in order to find out when and how mismanagement had taken place, and what kinds of reactivation actions should be undertaken in the immediate future. The case shows clearly that there are variations in

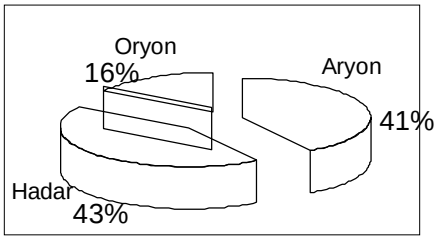

Figure 1. Distribution of employees in Medinet per location.

users' behaviors and acceptance of the new system in the two phases due to differences in technical and human issues. It provides valuable insights into IT implementation processes within a decentralized organization and provides examples of the success and challenge factors that might need to be considered in order to get users at remote sites to fully use the system.

ORGANISATIONAL BACKGROUND

Medinet was founded in 1990 by a merger of three smaller local hospitals and two polyclinics. The fusion aimed at combining the efforts of different regional healthcare organizations, and improving and centralizing the healthcare service in the region.

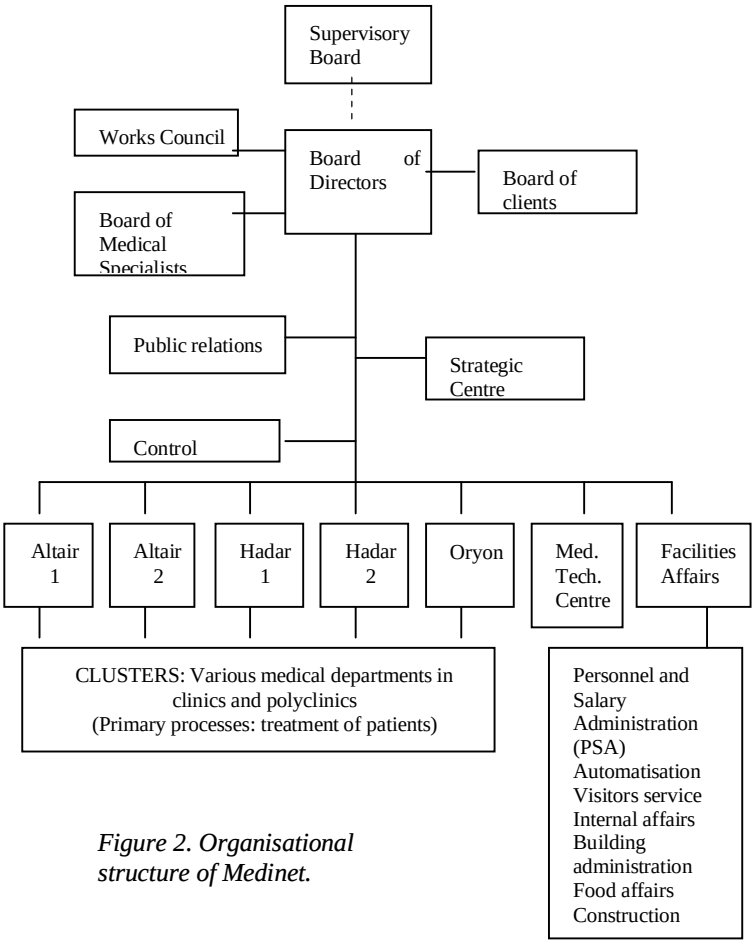

Figure 2. Organisational structure of Medinet.

Medinet today is one of the largest general hospitals in the Netherlands, with 1070 beds and around 3800 employees. Nowadays, the primary processes in Medinet (examination, treatment and nursing of patients) take place in five clusters: two are located at 'Altair', two at 'Hadar', and one at 'Oryon'. The distribution of employees among the sites is shown in Figure 1.

'Altair' and 'Hadar' are situated close to each other in a large city. Each one is subdivided into two separate functional clusters (see Figure 2). The fifth cluster 'Oryon' is situated in a neighboring town, located 7.3 miles away. There are also two smaller medical units located 6.7 miles and 9,15 miles from the city. Each cluster is further subdivided into departments, and in total Medinet has 64 departments.

One of the central management units in the hospital is the Strategic Centre that covers the social, information, personnel and financial functions. At the same time, each department has its own personnel manager who implements the central strategy. Medinet has support departments that help in running the primary processes - Facilities Affairs and the Medical Technical Centre. The Strategic Centre, and the supportive departments, have representatives in all clusters who actively communicate across Medinet and contribute to building up a united Medinet culture. Every location still keeps, to an extent, its own 'pre-fusion' norms and traditions, especially concerning management processes and task divisions (Figure 2).

Personnel Services in Medinet

The fusion processes have resulted in the restructuring of the hospital over the last decade, including of the personnel service, or personnel management, of the hospital.

Two departments were originally responsible for personnel management: Strategic Centre and Facilities Affairs. The Social Affairs department, a part of the Strategic Centre, was responsible for developing HRM policy, checking and monitoring its implementation; while Facilities Affairs implemented these plans in practice. Facilities Affairs included several units: Personnel and Salary Administration (PSA), Automatization, Visitors Services, Internal Affairs, Building Administration, Food Affairs, and Construction Administration.

Initially, personnel management was highly centralized: employees had to contact different officers from Social Affairs or Facilities Affairs with their private or work questions. It would sometimes take weeks, for example, for an employee in the "Oryon" cluster to get a document from the salary department located in another town. Each month the central salary department received about 14,000 individual administrative requests from employees about, for example, changes in addresses, switching to another contract, processing vacation days, changing insurance policies, modifications to the pension scheme, and adjustments to flexible appointments.

In 1998, the Medinet management started a long-term HRM project aimed at decentralizing personnel management. The main idea was to have one 'frontline' personnel manager for every location responsible for direct communication with the employees.

SETTING THE STAGE

To achieve the more efficient administration of HRM information, and to restructure personnel management from the highly centralized approach to a decentralized form, the

Strategic Centre decided to look for an IT solution offering a new personnel information system that could support and incorporate the new HRM policy.

The existing digital personnel information system seemed to be outdated and could not meet all of the new requirements and store all the necessary information (Fehse, 2002). In addition, the contract for the old system was about to expire. Given this state of affairs, in 1999, Social Affairs started a project to implement a new IT system across all levels and all departments in Medinet. The project was granted an initial budget of €1 million.

The core of this case study consists of two groups of targeted employees who were supposed to use the new system, Beaufort, to manage the personnel information: (1) local personnel managers and their secretaries, referred to as the 'decentralized users' for the reminder of this article, and (2) the PSA department employees. The two groups of users managed personnel information with different emphases: for the PSA employees such tasks were primary, but for the decentralized users these were secondary tasks.

The PSA members, being part of the Facilities Affairs, were responsible for processing the salaries of all employees of the organization. Decentralized users, being part of the Social Affairs department within the Strategic Centre, were responsible for the development, testing, and monitoring of HRM policy in their individual departments. They implemented the central HRM strategy, but at the same time created and developed internal HRM rules and norms within their own units. The primary tasks of the decentralized users included managerial tasks such as creating an internal policy and human resource development, and fewer administrative tasks.

There was close cooperation between the PSA and the decentralized users: every day the latter sent information using special paper-based forms about all changes in personnel data to the PSA. Day-to-day communication between all the representatives of personnel management in all the departments and units involved internal paper-based post, e-mail, fax, or telephone. Following the introduction of the new personnel system, the concept was that local managers and secretaries would make inputs of personnel data straight into the system, and that PSA employees could immediately use these data to make any salary modifications.

CASE DESCRIPTION

In December 1999, the Beaufort system – a product of Getronics - was chosen on the basis of it meeting the multiple functional demands of Medinet.

Getronics is a Dutch software company with its main location in Amsterdam. It has a turnover of €5 billion, and about 25,000 employees in 30 countries. It dates back to 1887 with the incorporation of Groeneveld (Van der Pol and Company's Groeneveld Elektrotechnische Fabriek N.V.), an installer of control and technical equipment for the utilities, construction, and shipbuilding industries. Since 1988, renamed “Getronics”, the company has offered advice, design, development, implementation, and support of IT in the field of Infrastructure and Business Solutions. The clients of Getronics can mainly be found in such market segments as finance, retail, telecom, utility, healthcare, government, and accountancy. In the Netherlands, the company has become famous for its HR electronic solutions that offer various technological tools for personnel management such as information planning and management, organizational structuring, implementation of HRM systems, business intelligence, and career development.

Specification of the System

Beaufort is a system that provides a company with the opportunity to improve and decentralize its internal personnel management processes. It is a module-based personnel and salary administration system that contains technical options for publishing, composing, structuring, improvisation, and storing personnel data. There are seven modules, with which users can perform document administration: personnel management, salary administration, sick leave administration, formation and organization, time registration, office link, and report generator.

The basic module is Personnel Management, through which the users input and update all the information concerning personnel data (see Table 1). These inputs do not require specific codification as they are registered using 'normal' words.

The Sick Leave Administration and Time Registration modules are very important in salary calculation. All inputs in those two modules are coded using special numbers, including 3 to 5 ciphers. Any changes in the code numbers might indicate changes in the working conditions (for example, less or more working hours per week, or urgent working hours, or differences in types of sickness including professional sicknesses) that will automatically modify the salary in the Salary Administration module.

The Salary Administration module also requires codified inputs. The users (salary administrators) combine all the personnel data in this module (such as sick leave days, participation in the optional schemes for fringe benefits, flexible and urgent working hours, types of professional qualification, and medical authorization). Any small mistake in numerical input would lead to an incorrect salary for an employee.

Beaufort's Formation and Organization module provides the structure of the company in its hierarchical manner: subdepartments and units, clusters, divisions, etc. It gives an overview of the whole company and allows one to "see" the working place of any employee. Only Medinet's IT department is authorised to make changes in this module and update the information, other users can only read it.

Office Link is a special HRM module that allows HR administrators to send letters to employees using mailing lists within Medinet, for example to a certain department, or to all nurses. Such letters may concern a range of personnel information – changes in work contracts, invitations to special events, up-dating labor conditions, information, etc.

The final module – "Informer" – provides the possibility to generate non-standard reports upon requests from the HR managers: reports about different expenses on yearly or monthly bases (such as travel expenses or telephone bills), salary and premium overviews, etc.

Table 1

Functionality of the Beaufort Modules

Module	**Specification**
Personnel Management	Registration of: Personnel data: name, title, address, family status, date and place of birth, employee number, type of contract, department and function, special authorization issues, participation in the fringe benefit options, etc. Career development data: educational background, professional experience, on-going professional development (courses, education, etc.), and social activities. Inputs are not coded.
Salary Administration	Operating with all inputs from other modules in order to calculate salary. All inputs and outputs are numerically coded.
Sick Leave Administration (SLA)	Registration of absence (total or partial) due to sickness, and notification of this absence to the various external administrative bodies related to the social security system in the Netherlands. Inputs are based on the date, type of sickness, necessary treatment, pregnancy, frequency of sickness, and relationship with the occupation in the hospital, etc. Inputs are crucial for salary administration. All inputs are numerically coded.
Formation and Organization	Detailed picture of the organizational structure and employees within the hierarchical order: divisions, clusters, departments, subdepartments, sub-units, etc.
Time Registration (TR)	Registration of working hours in accordance with the Collective Agreements for Dutch Hospitals (special registration of weekend and holiday working hours, emergency hours, day and night shifts, etc.). Inputs are essential for calculating monthly salaries. Inputs are numerically coded.
Office Link	Administration of various types of letters to employees (invitations, congratulations, bulletins, etc.)
Report generator "Informer"	Creating non-standard reports.

Beaufort's Role in Medinet

The Beaufort project's strategic plan (January 2000) contains information about the reasons for Beaufort's introduction at Medinet. It states that the introduction of Beaufort was aimed at improving the efficient processing of HR administrative data, simplifying admission to strategic information, and improving the protection of sensitive personnel information. Other goals were described as follows:

1. To increase the efficiency of personnel administration by restructuring the HRM processes, from a highly centralized approach to a decentralized one. Local HR managers were expected to carry out data processing directly using the system.
2. To create shared information files, leading to the use and exchange of personnel information among local managers.
3. To incorporate all the personnel information systems in Medinet. There were originally several different information systems that used personnel information: the internal telephone station had its own small information system with the names, addresses, and telephone numbers of employees; the 'clothes' department worked with another small information system, etc. Often, for various reasons, the same employee had different data in the various subsystems in Medinet. Beaufort was supposed to be a central personnel system, which would provide other systems with any necessary data.

How were these official goals for Beaufort understood and accepted by the project team members and the end-users? There are some illustrative statements:

> We hope to restructure the administrative flow of work, with the help of Beaufort, from a centralized to a decentralized manner. Now, nobody in the

local HRM offices uses Beaufort…if there are any personnel questions they are used to calling PSA to get the information from the system… (Olaf, the project leader).

In the current situation, four different persons are involved in inputting the personnel data in order to administrate a salary: an HR manager from a department, his/her secretary, a PSA staff member, and a PSA administrator. If all the people make mistakes, it can take a lot of time to discover them, and then to correct them. However, using the system changes this as only one employee would be responsible for that input, which in fact decreases the overall possibility of mistakes (Paul, a member of the project team).

Managers wanted more information, but the previous system could not provide this. I think with Beaufort it will be possible to retain the information about educational level, career status, health issues, etc. It is important for the managers (Alfred, a staff member, PSA).

The goal of introducing Beaufort is clear. The company will earn more money with it. Nowadays, for example, a task is being performed by five employees, in the future the same task will require only three employees. It saves money (Jan, a salary administrator, PSA).

Actually, I don't think that the need for Beaufort is urgent, but it will be in the future. If you want to be a modern hospital, there is a need for such technology. If other hospitals are more efficient than you, you won't be competitive enough. And employees have to follow the main policy of the organization (Henk, decentralized user, HR manager, a pilot department).

History of the Project

The Social Affairs department decided that the complete implementation should take 15 months: from September 2000 to December 2001. The project team developed an implementation plan consisting of three major steps: first, the introduction of the system to the PSA employees in September 2000; second, pilots with two Beaufort modules in four decentralized departments in between March and June 2001; third, introduction of two modules to all the HR managers in the 64 departments between September and December 2001. It was expected that from December 2001 all users would be working with Beaufort.

A chronological account of the project history is given in Table 2. It immediately illustrates the differences between the introduction of Beaufort to the PSA department and to the decentralized users. It shows that the implementation plan was strictly kept to, until the time when two Beaufort modules were distributed to the decentralized users in four pilot departments: the laboratory, intensive care, kitchen, and the nursing department. Firstly, some technical problems related to the IT infrastructure in Medinet caused delays. Next, the project team discovered that the PSA tasks were not operationalised, and therefore could not be transferred to the decentralized users (resolving this situation took additional time). Unexpectedly long negotiations with Getronics, discussions involving the PSA department, complications with the pilot trials of Beaufort, financial difficulties, and finally the project leader leaving the project, all created a negative atmosphere surrounding the project, which was eventually frozen in December 2001.

Table 2

A Chronological Account of the Beaufort project in Medinet

Time	Real activities	Intended activities
February 1998	Initial meeting about the need to have a 'decentralized' HRM system (Social Affairs).	
December 1999	Beaufort – a product of Getronics - was chosen based on meeting the functional requirements.	
July 2000	Randomly selected PSA employees and HR managers attended a 2-3 day course on how to use some of the modules of the system. It was expected that they would later teach their colleagues what they had learnt.	
September 2000	Technical introduction of the system to the PSA employees, trial use of the system, peer teaching and instructions.	
October – December 2000	PSA employees starting to use the system, the most difficult period in getting used to the system. Weekly discussions about on-going use, consultations with the supplier's representative, continuing instructions. Based on evolving requirements, a second version of the system was introduced.	
January – February 2001	Stable use of the system by PSA without major problems, preparation for the decentralized introduction of the system to the whole hospital.	
March 2001	Stable use of the system by PSA. Facing technical problems in the ICT infrastructure of Medinet. Discovering functional bias in the PSA tasks: sick leave is entered into the system only once a month. This would complicate work for the local managers. A lot of efforts are needed to regulate those procedures.	Introduction of SLA module to four pilot departments: lab, intensive care, kitchen, and nursing.
April 2001	Solving technical problems in the infrastructure. Negotiations between the project team and PSA employees about the vision on the use of the sick leave administration (SLA) module in a decentral manner, attempts to make possible everyday inputs by the local managers.	Trial use of SLA module in a decentralized manner.

May 2001	Some technical problems faced in the IT Medinet infrastructure. Discovery of functional bias in the PSA tasks: sick leave is entered into the system only once a month. This would complicate work for the local managers. A lot of effort is required to regulate these procedures.	Introduction of module time registration to four departments – pilot use.
June 2001	Introduction of the SLA module to one decentralized user-department (instead of the four planned). The department was unused to working with software. After two weeks this pilot was frozen. The local manager made a single 'content' mistake in entering data, and this led to a large financial loss. One of the project team members temporarily left the project.	Trial use of the time registration in a decentralized manner.
July 2001	Discussions with PSA workers and agreement reached on task identities and procedures. Creation of an official document for the decentralized users with the rules on 'when, what, and how' in terms of sick leave administration. Introduction of the SLA module to a second decentralized user-department, one that was very experienced in working with software.	Evaluation of the pilots.
August 2001	Discussions with the supplier on possible improvements to the SLA module. The second decentralized user-department faces big problems because of the lack of knowledge in the content health administration.	Preparation of the whole company.
September 2001	Evaluation of the decentralized use of the SLA module. Decentralized users insisted on a decision being made to stop all attempts to proceed with the decentralized use of the module because of the complexity of the content of health administration.	Connecting the remaining 64 departments to the system.
October 2001	Introduction of the time registration module to the four decentralized user-departments originally identified. The project leader left the project.	
November 2001	Discovery of differences in internal departmental rules in the registration of working hours that meant they could not be identically input into the system.	
December 2001	Decision is made to freeze the project in order to evaluate and improve technical and functional characteristics of the system, and to reach a collective agreement among all potential decentralized users and the PSA department on how to work with the system. A further project team member left the project.	Stable use of Beaufort in Medinet

Note. Intended activities are mentioned where different from real.

Phase 1: The PSA Department's Experience with Beaufort

The PSA department consisted of 17 employees of whom 70% were female and 30% male. Their average age was 33.4; the average time spent working in the department was 4.5 years; and 70% of the employees were educated to high school level.

The main tasks of the PSA employees were to produce correct salary outputs for the company and to prepare salary documents on time. In order to achieve this, more than 100 job tasks had to be performed in a cyclic manner each month. These tasks included for example, registration of new appointments, personnel data administration, sick leave administration, registration of working hours and different types of contracts, pension management, supervision of financial projects, administration of insurance data, modification of personnel and salary information, administration of declarations, and the registration of internal promotions.

These were primary tasks for all the employees in this department. The task results were extremely important for Medinet as a whole, and for each individual worker. Usually the staff followed a scheduled plan in which the tasks for a certain period were divided in such a way that everybody performed them in a cyclic manner. The level of individual responsibility was very high since any mistakes could lead to financial problems. The staff entered various salary-related data into the system (insurance, sick leave days, expenses declarations, vacation days, transport, etc.). Then, during a certain week in every month, they processed these data. Following this, all the data were automatically sent to an external governmental salary system that finalized the outputs and transferred money to the employees. All PSA employees benefited from the reliable and responsible work that the others carried out.

As a department, PSA staff had long experience of working together. Since 1999 they had been working as a team. Most of them had known each other for 5-12 years. Every morning they had thirty-minute coffee breaks, where they talked about various problems, and expressed sometimes rather critical ideas about Medinet management, and also about the Beaufort system.

All PSA members were used to working with IT. Since 1990 they had been using software to handle the salary administration. Before Beaufort was introduced, they had worked with the IT salary system Prigem, also a product of Getronics.

The Intentions for PSA in Introducing Beaufort

The plan was to introduce five basic Beaufort modules to the PSA specialists: salary administration, time registration, sick leave administration, personnel management, and report generator. Introduction of those modules was aimed at supporting the main tasks of the PSA employees.

The introduction of Beaufort did not require changing the content of job tasks. Due to the technical advantages of the system, many tasks were supposed to become faster and easier. Beaufort also offered automation of tasks that were previously done manually (for example, historical overviews of various data).

Ultimately, 82% of the PSA employees used Beaufort both very actively and frequently. Once in use, there was a great need to continue using it since all their tasks were performed using various modules in the system.

Involvement in the Project

The project team involved future Beaufort users from the PSA department in its implementation in order to mitigate against certain risks (Lin and Shao, 2000; Hunton

and Beeler, 1997). Mostly the involvement amounted to informing future users about the project:

The managers told us about all their plans regarding Beaufort. We were regularly informed about all the coming changes and new ideas. After their meetings at the management level, they used to tell us about their problems… (Piet, a salary administrator, PSA).

Acceptance of Beaufort by PSA Workers

The PSA workers were mainly involved through operating five Beaufort modules: sick leave administration, time registration, salary mutations, personnel management, and report generation. The majority of employees used these modules throughout their working day.

Every morning they discussed various problems in the on-going use during special sessions, and during the famous coffee breaks. They had special notebooks in which they noted down every nuance of the Beaufort system so that they could discuss them together. It led, for example, to a long discussion about the rules for sending the salary data away to the external salary IT company. In the beginning, the system made some inexplicable errors (e.g. mixing numbers up, or miscalculating working hours).

The staff recognized each other's difficulties in operating the system and did their best to help one other. ‘Advanced’ members, those who had good software skills, demonstrated the most difficult operations. One of them led two sessions on how to use the “Informer” module. She established the content of these sessions herself, based on her own experience. Another person developed special manuals for internal PSA use

including tips on time registration. During one of the meetings, the PSA employees agreed upon a rule to show new possibilities of the system to their nearest colleague.

Gradually, within the first month, the PSA department completely understood the services offered by Beaufort. At the same time, they commented that it was a complicated technology that required a lot of effort to fully understand and get used to. During the evaluation meetings they would express their attitudes towards Beaufort and would come up with proposals:

> Actually it's a good system. It works better than Prigem and it helps me a lot. It works very quickly. When somebody comes to me with their own salary problem, it's now so easy to find out the information, and to show the documents to the employee. I can switch from one file to another and get the right information directly from the computer, and just-in-time during the conversation (Nel, a salary administrator, PSA).
>
> Looking at historical overviews is not simple: you can do this only since October 2000; if you are interested in earlier periods, you have to look at Prigem or to go to the archive and work with papers. I suggest trying to improve this because we frequently need the historical overviews (Piet, a salary administrator, PSA).
>
> Yesterday, when the production figures had to be sent out, the system worked very slowly. It was really too slow – you maybe had time to have a drink or to relax after you pressed a single button. But there was no possibility to delay the salary documents. Usually this happens when somebody works with the "Informer" module. I discovered that somebody from the project team [in

another building, - T.B.] was working with that module. Lets agree to have a sort of a working schedule for using Informer (Alfred, a staff member, PSA).

There were many suggestions about organizing instructions about the use of the "Informer" module, since this was the most difficult one within Beaufort. Following such suggestions, two special training sessions were organized for the PSA employees.

Managerial Practices Affecting the PSA Workers in the Beaufort Project

The introduction of new IT requires strong organizational encouragement in order to enhance the employees' efforts to use the system (Wolfe, 1994). These include training in innovation use, providing time to experiment, management showing respect, financial support, job reassignment, and user-friendliness of an innovation (Rivard, 1987; Schneider, 1990; Schneider and Bowen, 1995; Klein and Sorra, 1996). The Beaufort project team divided the activities to support Beaufort implementation into four groups, namely: (a) providing employees with autonomy and responsibility in the use of Beaufort, (b) promoting various learning opportunities, (c) providing time to experience the system, (d) providing feedback to the users regarding their progress in using the system.

The PSA employees were led by the project managers through most of the steps involved in learning the system. The project team, together with the head of the PSA department, planned and scheduled all the educational, experimentation, and implementation activities.

There were many differing learning opportunities arranged for the PSA employees. Six of them (out of 18) followed three- to four-day software courses at Getronics followed by a special didactical course in June-July 2000. This group became the core for peer teaching within the department. Systematic, well-prepared, instructions were provided for all PSA members by their colleagues and by experts. There was a distinct

three- to five-hour training session for each Beaufort module. The contents of the sessions were mainly related to the technical issues of the system. Overall, it took about two weeks to process all the employees. During the training sessions, all the ‘learners’ were provided with personal computers and could practice using Beaufort under a teacher's guidance.

There were three main reading resources concerning the use of Beaufort: the general manual from Getronics, a minor manual adapted to the PSA ‘environment’, and regular information bulletins that provided task assistance. Online chat was encouraged to exchange experiences and ideas. Employees had three consultation possibilities: via the telephone with a Getronics’ contact person, face-to-face with a Getronics’ consultant who worked for one month at Medinet, and the always available hot-line to project team members, including technical specialists.

Prior to the introduction of Beaufort, the end-users were allowed two hours a day for one month for practice with the system. Their daily tasks remained unchanged. They found that they needed more time to try the system out. They practiced a lot during September 2001, the period of hands-on Beaufort training. They were not allowed to take holidays during the first three months of use.

Any mistakes made by the users were immediately pointed out and discussed during meetings. Sometimes the comments were very disparaging. The employees were not rewarded or given recognition for their efforts invested in learning the new system: there was no rewards scheme.

Phase 2: Beaufort and the Decentralized Users

Our case study involved only those decentralized users who participated in the pilot Beaufort implementation project: HR managers from four different departments (the Medinet laboratory, intensive care, kitchen, and the nursing department). As mentioned earlier, the project was frozen after these pilots. The study involved nineteen end-users of the system (20% male, 80% female; average age 36) who had spent an average of 8.5 years working for their departments.

The decentralized users had not worked together as a group before in order to perform HR administrative tasks, they did not know each other very well and preferred to keep their own opinions and strategies. They were used to working independently (in fact encouraged to do so) in creating their departmental HRM policies. Their software experience varied, sixteen of the nineteen were familiar with working with IT.

The Intentions with Beaufort for the Group of Decentralized Users

The plan was to introduce two Beaufort modules for decentralized use: Time Registration and Sick Leave Administration. These tasks were of secondary importance to the managers, to the extent that in the past their secretaries usually carried out such administrative tasks using paper forms.

Introducing the new IT necessitated changes in performing the standard tasks. Firstly, the way of performing certain tasks had to change: instead of completing forms and sending them to the PSA department, the decentralized users had to make inputs electronically and share the information with the PSA specialists and other HR managers. Secondly, the content of inputs had to change: the managers had to understand various legal aspects of registering working hours and salary administration. Thirdly, the

responsibility for such inputs had to be transferred from the PSA specialists to the managers. Any mistakes in inputs could lead to financial complications for the department concerned and for Medinet. Fourthly, decentralized users had to establish new collaboration links through the system: with the PSA specialists and with HR managers from other departments.

Involvement of the Decentralized Users in the Project

Some of the HR managers were members of the steering group for the project, and actively took part in the development and implementation of the new system. Two of them were involved in decision-making over the choice of a new system.

Most of them took part in the analysis of the requirements and the functional demands of Beaufort for the entire company. None of them, however, participated in the functional design of the system in terms of their individual end-user needs.

They discussed future HRM changes and gave advice to the project team on possible ways of improving implementation. They were involved in the PSA department's development of the Beaufort project plans.

The managers fully agreed with the idea to introduce Beaufort. All of them were enthusiastic about the main aim of Beaufort, i.e. to improve the HRM processes in Medinet:

> I am quite interested in the system and believe it has a lot of possibilities. I am looking forward to the situation when we all will work in the network in Medinet. It is so interesting to generate documents such as working schedules, overviews of our production for the whole company, etc. … (Michiel, decentralized user, HR manager, a pilot department).

Acceptance of Beaufort by the Decentralized Users

The local managers were busy making inputs to the system on average between two and four times a week, and for not more than an hour a day. All inputs were similar, using one of the two modules.

They hardly communicated or discussed the use of Beaufort with each other. Occasionally, some of them would call other people, whom they already knew personally, to ask about its usage. Discussion of errors took place only within one department, and then related to an incident when Beaufort mixed up the names of months in outgoing documents, requiring employees to make manual corrections for two months.

The local managers waited for external help from the PSA department every time they came across unfamiliar screens or information. They even became afraid to make inputs. They understood how to operate the modules but found them over complicated. Generally, they considered Beaufort as potentially useful, but were disappointed that it did not meet their expectations:

> When you look at the system for the first time, it's too difficult to see how to proceed. I would say it is not very user-friendly; there are so many screens you have to go through before getting to the right information. I have five screens for one procedure (Henk, decentralized user, HR manager, a pilot department).

They could not find sufficiently strong reasons to exert themselves in understanding and accepting the system. They were very pessimistic over the future use of Beaufort. Their main concerns were about unexpected new tasks and their increased financial responsibility for the outcomes of the system:

> Now we have to input the data, not only the registration of illnesses or working hours, but also its function in influencing the salary. Salary administration terminology is not familiar to us... even after our inputs, the PSA department has to develop the information further, I think it's quite complicated (Annie, decentralized user, HR manager, a pilot department).
>
> We are involved in the pilot, and it means additional work and trials. I can say that personally I do not need Beaufort. However, I am sure it is necessary in order to integrate the whole company (Marlies, decentralized user, HR manager, a pilot department).

The managers proposed improvements to the manual: they wanted it to be operationalised in a "what…if" style:

> Getronics provided us with a full manual how to use the system. However, it says nothing about the content of our tasks. At the same time, in Medinet, we ourselves do not have official written documents with descriptions of job tasks. Everything is in employees' heads. They have been working in well-established ways for a long time. Nobody even asked why they did so, who decided this, etc. However, now we really need structured documents with descriptions of all procedures, otherwise it will be chaos (Olaf, the project leader).

Further, they had to duplicate their tasks: they had to continue filling in paper forms in the old way and post them to PSA and, in parallel, they had to make inputs into the new system based on the new requirements. In the laboratory department, where they had their own HR IT system, the managers had to triplicate these tasks: filling in forms, making inputs into Beaufort, and into the local HR system.

Being disappointed with their experiences with Beaufort, they organized private evaluation sessions - without the participation of the project team. In two departments, they took the initiative of writing a letter of complaint to the project team listing all their difficulties and problems regarding the use of Beaufort. In practice, all their activities were geared towards blocking the implementation of Beaufort.

Managerial Practices Affecting Decentralized Users in the Beaufort Project

The project team strongly recommended that the decentralized users should strictly follow the instructions they received since pushing the wrong buttons in Beaufort could lead to mistakes in salaries, and incorrect personnel information (such as longer sick leave periods). The users were not allowed to make any inputs without them being double-checked by the PSA department and the project team. Experiments with Beaufort were forbidden because they could result in a financial crisis. On one occasion, the manager from one of the pilot departments decided to make salary administration inputs himself without being double-checked by PSA:

> … Our operational manager started to work with Beaufort. He called his 'coach' from PSA to input the data, and everything seemed to work fine. However, after ten days, he left for a vacation. I had to do it myself. First, I phoned the same person from PSA, but she was away. I decided to input the data anyway because I did not have time to wait. The next day they discovered a lot of mistakes in the system and forbade us to use it any longer (Michiel, decentralized user, HR manager, a pilot department).

The project team then decided to remove that department from the pilot following such experimentation. Just as with the PSA department, the project team planned the

Beaufort work for the local managers in advance: who would be ‘guided’ in making inputs in the modules, etc., and when and how.

Only one decentralized user attended the Beaufort course at Getronics, and she was expected to teach the others how to operate the system. For the other decentralized users, the major source of information about Beaufort was a one-hour instruction session provided by one of the PSA specialists. These sessions were organized for local departments; not for the group as a whole. The main context of the training was related to the technical issues in using Beaufort. During such sessions, only one computer was available which the instructor used to demonstrate how to operate the system. The ‘learners’ had to memorize the information, virtually without practice.

The reading materials available included the general Beaufort manual provided by Getronics and a ‘sub-manual’ from the PSA department. The sub-manual was part of the task description provided by PSA and contained all the necessary information concerning salary administration and time registration (legal issues, information about inspections, etc.). However, they were not operationalised and defined for ‘new’ users.

Immediately following the training sessions, the decentralized users had to start using the system. Special time was not set aside for practicing with Beaufort. Daily tasks remained unchanged. Only one decentralized user was allocated specific time to work with Beaufort – one hour twice a week. The others operated with Beaufort between other responsibilities:

> I think we had a secondhand education… Why not invite a specialist from Getronics to teach everybody in a proper way? I am not a computer person, and

> when I have to learn from paper it does not go well (Petra, a personnel secretary, a pilot department).
>
> In my view, decentralized users needed to practice a lot before starting to use the system. We, in the PSA department, did the same at the beginning… why not to have a stand-alone version on which to practice? Without skills they could not even open the system. In my view it was too difficult for them (Piet, a salary administrator, PSA).

The employees sensed a serious lack of being "rewarded for their efforts". Comments on their use of, or learning, the system from the project team took place only in the event of negative emergencies. Employees were neither rewarded nor recognized for their efforts in learning the new system. A rewards scheme did not exist.

SUCCESSES AND CHALLENGES IN THE BEAUFORT IMPLEMENTATION

In the first instance, the Beaufort project was expected to be efficient as it was very carefully planned. The Strategic Centre stressed the importance of meeting the budget and targeted employees for adopting particular Beaufort modules according to a schedule.

The project team planned regular evaluation sessions with participation by the HR managers from the pilot departments, salary administrators from the PSA department, and representatives of Social Affairs.

By the end of summer 2001, Medinet management raised vital questions: why had a carefully developed project ended up with conflicting results in two phases? What managerial activities contributed to the positive results in the PSA department, and unsatisfactory results among the decentralized users?

The project leader proposed basing an evaluation of the Beaufort adoption on the concept of the Technology Acceptance Model (Davis, 1989). The idea was to apply a well-known theoretical concept as an evaluation instrument for the project, and to gain enhanced insights into the project outcomes, and the state-of-the-art of users' acceptance of Beaufort. The on-going results of the project were expected to be described on the basis of the users' perceptions of Beaufort, in terms of three indicators: Beaufort's ease of use (Davis, 1989), a fit between the functionality of Beaufort and the users' task requirements (Goodhue and Thompson, 1995), and efficacy beliefs (Klein and Sorra, 1996).

The evaluation sessions, in September 2001, concentrated on the acceptance of all modules by the PSA members, and the Sick Leave Administration module by the decentralized users. The project team members posed questions to the end-users with respect to the three aforementioned indicators. Thus, they asked the users to what extent their work with Beaufort was effortless, quick, and friendly (ease of use); to what extent Beaufort helped them in executing their daily tasks (task-system fit); and whether users' believed in the possibilities to improve on-going work with Beaufort (efficacy belief).

During those sessions, the participants expressed their opinions, and a member of the project team took notes. These notes led to a long report, which is briefly summarized in Table 3 below.

Table 3

Successes in the use of Beaufort in the PSA department and within the group of decentralized users

	PSA department	**Decentralized users**
Efficiency	All employees became used to working with Beaufort in accordance with the scheduled plan – within three months.	They struggled with the implementation process for seven months, and finally decided to stop. They all agreed to freeze the project until 'better times'.
Ease-of-use	The employees characterized the system as 'not difficult' after the transition period (first three months). They noted that they no longer had problems working with Beaufort. They operated the basic modules quite easily and quickly. Only one of the optional modules ("Informer") still required additional efforts to run. They also considered that further exploitation of Beaufort would not pose difficulties. They were not very enthusiastic about using the interface – it seemed to be not very user-friendly and involved a lot of screens and steps. However, they were completely satisfied with the content of the interface.	Three HR managers who were used to working with their own computerized HR system did not find Beaufort technically difficult. They could operate the modules quite easily and quickly (under the supervision of the project team). The remaining end-users in this group were convinced that filling in paper forms was much easier than using Beaufort. They felt uncomfortable working with the system, and were even 'afraid' of clicking the buttons without supervision and help. They considered the interface too complex, with many unnecessary items. These items (in the tool bar or menu) brought additional confusion. In order to make one particular input in the SLA module they had to open five screens.

Task-system fit	They expressed the opinions that the system was very helpful and advanced in supporting their tasks. In particular, they rated highly the aspect that all the personnel information was placed on a single screen. They believed that they could perform the documentation and administration procedures faster than with the previous system. Also, they appreciated that the system helped them when communicating with their clients: during telephone calls it was sufficient to use only one screen avoiding difficult paper-based searching processes.	The HR managers were of the opinion that the system did not facilitate their existing tasks, but rather added new ones. They acknowledged the importance of Beaufort for salary administration, but did not find it essential that they participated in it. They stressed that time registration and SLA were minor administrative responsibilities among all their HR work, but that the system forced them to pay too much attention to such tasks. They even lacked some of the data necessary to make inputs into the system. For example, the Personnel Management module did not include information about types of contracts.
Efficacy beliefs	They strongly believed that by working together they could further improve Beaufort operations. To them, this meant developing technical skills in working with software, and improving the performance of certain special tasks. For example, they were optimistic about finding a solution allowing them to combine the “PC Prive” project and salary calculations. They believed in the group’s ability to learn Beaufort without external help.	They believed that if Beaufort had been simpler and better matched to their tasks, that they would have been more willing to use it. However, they could not see ways to improve Beaufort for their use, and so they did not see any reason to persevere. Nobody from this group could independently perform tasks using the system, they all needed external help.

The results were discussed in a meeting between the project team and members of the Strategic Centre. The evaluation report made clear that the acceptance of Beaufort was different between the two groups of users in the two phases of the project. While the PSA workers were enthusiastic about the project in general, and shared an opinion of a

positive future for Beaufort in Medinet, the decentralized users seemed to have lost any hope for the project and evaluated the Beaufort functionalities rather negatively. Nobody had anticipated such differences in the system's acceptance within the company. Was it caused by mismanagement during the project implementation, or could it have been predicted in advance from the 'misfunctionality' of the system? Were there any possibilities to improve the situation during the process, and at what stage?

The Medinet management faced an emerging situation in which they had to find a solution that would get the decentralized users to begin from the beginning, and eventually make full use of Beaufort.

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Comment [GS1]: Americans spell this with a z so I expect most of the referenced papers do likewise